Amendments to the Claims

1   Claim 1 (currently amended): A communication system to provide remote access, by an

2   operator, to process sections in an industrial plant, the process sections monitored and controlled

3   by a centralised control system, the communication system comprising:

4   a data network;

5   a plurality of wireless access points on the data network;

6   first identifying means for identifying an operator;

7   second identifying means for identifying at least one of job functions of the operator and

8   preferences of the operator;

9   a mobile wireless device provided to the operator;

10   a means for connecting the mobile wireless device to one of the wireless access points;

11   [[and]]

12   an interfacing means for connecting the mobile wireless device with the centralised

13   control system using the data network[[.]];

14   means for enabling whereby the operator equipped with the mobile wireless device is able

15   to query the centralised control system for status information pertaining to the process sections,

16   via the interfacing means;

17   means for customizing the status information, by the centralised control system, for the

18   operator based on a current location of the operator and the identified at least one of the job

19   functions of the operator and the preferences of the operator;

20   means for delivering the customized status information from the centralised control

21   system to the mobile wireless device, via the interfacing means; and

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22   <u>means for enabling the operator equipped with the mobile device</u> [[and]] to provide

23   instructions to the centralised control system that request the centralised control system to control

24   the process sections, <u>via the interfacing means</u>.

1   Claim 2 (currently amended): The communication system as recited in claim 1, wherein the

2   ~~interfacing~~ <u>second identifying</u> means accesses a database containing a profile of each of a

3   plurality of operators, <u>wherein the profile for each of the operators specifies at least one of the</u>

4   <u>job functions of the operator and the preferences of the operator</u>.

1   Claim 3 (currently amended): The communication system as recited in claim 1, wherein the

2   interfacing means further comprises a means to identify a selected one of the process sections

3   which is in a vicinity of each wireless access point <u>and wherein the means for customizing</u>

4   <u>customizes the status information for the identified process section</u>.

1   Claim 4 (currently amended): The communication system as recited in claim 1, wherein the

2   mobile wireless device comprises:

3   an input means for the operator to input the queries and the control instructions for

4   providing to the centralised control system via the interfacing means;

5   an output means for providing the <u>delivered</u> status information from the centralised

6   control system to the operator; and

7   a wireless communication means for communicating with the interfacing means using the

8   connected-to one of the wireless access points.

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1   Claim 5 (original): The communication system as recited in claim 4, wherein the input means of

2   the mobile wireless device is a touch screen.

1   Claim 6 (original): The communication system as recited in claim 4, wherein the input means of

2   the mobile wireless device is a keyboard.

1   Claim 7 (original): The communication system as recited in claim 4, wherein the output means

2   of the mobile wireless device is a display screen.

1   Claim 8 (original): The communication system as recited in claim 4, wherein the output means

2   of the mobile wireless device provides voice output.

1   Claim 9 (original): The communication system as recited in claim 4, wherein the wireless

2   communication means of the mobile wireless device is a receiver transmitter means.

1   Claim 10 (original): The communication system as recited in claim 1, wherein the interfacing

2   means is hardware.

1   Claim 11 (original): The communication system as recited in claim 1, wherein the interfacing

2   means is software.

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1   Claim 12 (original): The communication system as recited in claim 1, wherein the mobile

2   wireless device further comprises log-in means enabling the operator to be identified.

1   Claim 13 (previously presented): The communication system as recited in claim 12, wherein the

2   log-in means enables the operator to log-in into either the centralised control system or the

3   mobile wireless device.

1   Claim 14 (original): The communication system as recited in claim 1, wherein the mobile

2   wireless device is provided with a radio frequency means to communicate with the wireless

3   access points.

1   Claim 15 (original): The communication system as recited in claim 14, wherein the mobile

2   wireless device uses IEEE 802.11 wireless protocol.

1   Claim 16 (original): The communication system as recited in claim 14, wherein the mobile

2   wireless device uses HomeRF communication protocol.

1   Claim 17 (previously presented): The communication system as recited in claim 1, wherein the

2   wireless access points use Bluetooth communication protocol, the mobile wireless device being a

3   Bluetooth enabled device.

1   Claim 18 (original): The communication system as recited in claim 17, wherein the mobile

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2   wireless device processes voice data.

1   Claim 19 (previously presented): The communication system as recited in claim 1, wherein the

2   mobile wireless device has a storing means to store information pertaining to a plurality of the

3   process sections.

1   Claim 20 (previously presented): The communication system as recited in claim 1, wherein the

2   mobile wireless device is also a computing device.

1   Claim 21 (currently amended): The communication system as recited in claim 1, wherein the

2   ~~means for connecting the~~ mobile wireless device ~~communicates~~ connects with a selected one of

3   the wireless access points, the selected one being that one of the wireless access points which is

4   physically nearest the mobile wireless device.

1   Claim 22 (original): The communication system as recited in claim 1, wherein the interfacing

2   means uses software objects to represent the process sections.

1   Claim 23 (previously presented): The communication system as recited in claim 22, wherein the

2   interfacing means has a list of pre-defined characteristics for each software object, such that the

3   operator can interact with the pre-defined characteristics of at least one selected one of the

4   process sections, the pre-defined characteristics of the selected one determined by reference to

5   the pre-defined characteristics in the list.

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1　　　Claim 24 (original): The communication system as recited in claim 22, wherein the interfacing

2　　　means has the software objects categorized according to a predetermined scheme, and the

3　　　categories are linked together.

1　　　Claim 25 (currently amended): An industrial control system connected on a data network

2　　　suitable for an operator to remotely query and remotely control process sections in an industrial

3　　　plant, the industrial control system comprising:

4　　　　　　a centralised control system that monitors and controls the process sections over the data

5　　　network;

6　　　　　　a plurality of wireless access points on the data network; [[and]]

7　　　　　　a mobile wireless device that communicates wirelessly with the centralised control

8　　　system using one of the wireless access points to which the mobile wireless device is

9　　　communicably connected[[,]];

10　　　　　　a database containing a profile of each of a plurality of operators;

11　　　　　　a customizer at the centralised control system for customizing status information about

12　　　selected ones of the process sections, using a selected one of the profiles from the database,

13　　　wherein the selected one of the profiles is the profile of an operator who is equipped with the

14　　　mobile wireless device;

15　　　　　　whereby the operator equipped with the mobile wireless device communicates with the

16　　　centralised control system using the connected-to wireless access point to issue queries to obtain

17　　　the customized status information about the selected process sections, the selected process

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18   sections being those which the operator is physically nearby when issuing a request to obtain the

19   customized status information, and to provide control instructions to the centralised control

20   system that request the centralised control system to control the selected process sections.

Claim 26 (canceled)

1   Claim 27 (previously presented): The industrial control system as recited in claim 25, wherein

2   the centralised control system further comprises a means to identify, for each of the wireless

3   access points, a selected one of the process sections that is in a vicinity of that wireless access

4   point.

1   Claim 28 (currently amended): The industrial control system as recited in claim 25, wherein the

2   mobile wireless device comprises:

3   an input means for the operator to input the queries and the control instructions for

4   providing to the centralised control system;

5   an output means for providing the customized status information from the centralised

6   control system to the operator; and

7   a wireless communication means for communicating with the centralised control system

8   using the connected-to one of the wireless access points.

1   Claim 29 (original): The industrial control system as recited in claim 28, wherein the output

2   means of the mobile wireless device is a touch screen.

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1   Claim 30 (original): The industrial control system as recited in claim 28, wherein the input

2   means of the mobile wireless device is a keyboard.

1   Claim 31 (original): The industrial control system as recited in claim 28, wherein the wireless

2   communication means of the mobile wireless device is a transmitter receiver means.

1   Claim 32 (original): The industrial control system as recited in claim 25, wherein the mobile

2   wireless device further comprises log-in means for identifying the operator.

1   Claim 33 (original): The industrial control system as recited in claim 25, wherein the mobile

2   wireless device is provided with a radio frequency means to communicate with the wireless

3   access points.

1   Claim 34 (original): The industrial control system as recited in claim 33, wherein the mobile

2   wireless device uses IEEE 802.11 wireless protocol.

1   Claim 35 (original): The industrial control system as recited in claim 33, wherein the mobile

2   wireless device uses HomeRF communication protocol.

1   Claim 36 (previously presented): The industrial control system as recited in claim 25, wherein

2   the wireless access points use Bluetooth communication protocol, the mobile wireless device

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3   being a Bluetooth enabled device.

1   Claim 37 (original): The industrial control system as recited in claim 36, wherein the mobile

2   wireless device processes voice data.

1   Claim 38 (previously presented): The industrial control system as recited in claim 25, wherein

2   the centralised control system uses software objects to represent the process sections.

1   Claim 39 (previously presented): The industrial control system as recited in claim 38, wherein

2   the centralised control system has a list of pre-defined characteristics for each software object.

1   Claim 40 (previously presented): The industrial control system as recited in claim 38, wherein

2   the centralised control system has the software objects categorized according to a predetermined

3   scheme, and the categories are linked together, thereby modeling the process sections of the

4   industrial plant and enabling the operator to remotely access and remotely control multiple

5   process sections by navigating the linked categories.

1   Claim 41 (previously presented): The industrial control system as recited in claim 25, wherein

2   the mobile wireless device has a storing means to store information about a plurality of the

3   process sections.

1   Claim 42 (previously presented): The industrial control system as recited in claim 25, wherein

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2   the mobile wireless device is a computing device that analyses the obtained status information.

1   Claim 43 (previously presented): The industrial control system as recited in claim 25 wherein

2   the mobile wireless device communicates with a selected one of the wireless access points which

3   is located in a vicinity of the mobile wireless device.

1   Claim 44 (currently amended): A method for an operator to remotely query and remotely control

2   process sections over a data network in an industrial plant using a mobile wireless device, the

3   process sections being controlled by a centralised control system, the data network including a

4   plurality of wireless access points, the method comprising the steps of:

5   establishing a communication link between the mobile wireless device and the centralised

6   control system using one of the wireless access points;

7   identifying an operator of the mobile wireless device:

8   identifying a current location of the mobile wireless device:

9   identifying a selected one of the process sections physically near the identified current

10   location:

11   locating a profile of the operator, the profile specifying at least one of job functions of the

12   operator and preferences of the operator:

13   using the located profile, by the centralised control system, to customize status

14   information pertaining to the selected one of the process sections, responsive to a query request

15   received from the mobile wireless device:

16   sending the customized status information from the centralised control system to the

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17   mobile wireless device for access by the operator, responsive to ~~the~~ <u>the</u> query requests ~~received from~~

18   ~~the mobile wireless device~~, over the established communication link, ~~the status information~~

19   ~~pertaining to at least one of the process sections~~; and

20   sending control instructions provided by the operator using the mobile wireless device to

21   the centralised control system over the established communication link, the control instructions

22   requesting the centralised control system to control at least one of the process sections.

1   Claim 45 (currently amended): The method as recited in claim 44, wherein the establishing step

2   further comprising the steps of:

3   approaching a selected one of the wireless access points with the mobile wireless device;

4   transmitting a request signal from the mobile wireless device to the centralised control

5   system in response to approaching the selected wireless access point; and

6   acknowledging, by the centralised control system, the transmitted request signal; and

7   <u>wherein the step of identifying the current location</u> ~~further comprising the step of~~:

8   ~~identifying the location~~ of the mobile wireless device [[using]] <u>uses</u> a known location of

9   the approached wireless access point.

1   Claim 46 (currently amended): The method as recited in claim 44, wherein the establishing step

2   further comprises the [[steps]] <u>step</u> of:

3   detecting the mobile wireless device carried by the operator by searching amongst login

4   information that indicates which operator is logged in to each of a plurality of mobile wireless

5   devices; and <u>wherein the step of identifying the current location of the mobile wireless device</u>

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6   further comprises the step of ~~identifying a location of the operator~~ using a known location of a

7   selected one of the wireless access points which is wirelessly connected to the mobile wireless

8   device of the operator.

Claim 47 (canceled)

1   Claim 48 (previously presented): The method as recited in claim 44, wherein the step of

2   establishing a communication link between the mobile wireless device and the centralised control

3   system uses a Radio Frequency link.

1   Claim 49 (previously presented): The method as recited in claim 44, wherein the step of

2   establishing a communication link between the mobile wireless device and centralised control

3   system uses a Bluetooth access point.

1   Claim 50 (currently amended): A computer program product for enabling a mobile wireless

2   device to remotely query and remotely control process sections in an industrial plant through

3   communications with a centralised control system, the centralised control system querying and

4   controlling the process sections, the computer program product embodied on one or more

5   computer readable media and comprising:

6   computer readable program code means for establishing a communication link between

7   the mobile wireless device and the centralised control system using a wireless access point

8   located in a vicinity of a selected one of the process sections which the mobile wireless device is

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9   near;

10   computer readable program code means for sending customized status information from

11   the centralised control system to the mobile wireless device for access by [[the]] an operator of

12   the mobile wireless device, responsive to query requests received from the mobile wireless

13   device, over the established communication link, the customized status information pertaining to

14   the selected process section and being customized with regard to a profile of the operator, the

15   profile specifying at least one of job functions of the operator and preferences of the operator;

16   and

17   computer readable program code means for sending control instructions provided by the

18   operator using the mobile wireless device to the centralised control system over the established

19   communication link, the control instructions requesting the centralised control system to control

20   the selected process section.

1   Claim 51 (currently amended): The computer program product as recited in claim 50, wherein

2   the computer readable program code means for establishing a communication link further

3   comprises:

4   computer readable program code means for enabling [[an]] the operator to log-in to the

5   central control system via the mobile wireless device to enable identification of the operator and

6   the profile of the operator.

1   Claim 52 (original): The computer program product as recited in claim 50, wherein the computer

2   readable program code means for establishing a communication link further comprises:

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3   computer readable program code means for identifying a location of the operator.

1   Claim 53 (previously presented): The computer program product as recited in claim 50, wherein

2   the computer readable program code means for establishing a communication link further

3   comprises:

4   computer readable program code means for searching for the operator amongst operator

5   login information stored for a plurality of mobile wireless devices, wherein the operator login

6   information identifies a particular mobile wireless device to which the operator logged in; and

7   computer readable program code means for identifying a location of the operator using a

8   known location of the wireless access point wirelessly connected to the particular mobile

9   wireless device.

1   Claim 54 (currently amended): The computer program product as recited in claim 50, wherein

2   the computer readable program code means for establishing a communication link further

3   comprises:

4   computer readable program code means for identifying the operator;

5   computer readable program code means for identifying a location of the mobile wireless

6   device; and

7   computer readable program code means for identifying the selected one of the process

8   sections which the mobile wireless device is near and which is located in the vicinity of the

9   wireless access point, and wherein the computer readable program code means for sending the

10   status information further comprises:

11 ~~computer readable program code means for customising the status information pertaining~~

12 ~~to the identified process section based on the identification of the operator; and~~

13 ~~wherein the computer readable program code means for sending the status information~~

14 ~~sends the customised status information.~~

Claims 55 - 57 (canceled)

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